

Serial No. 09/574,987; Navy Case No. 82408

Remarks

In response to the Office Action of 8 May 2001, Applicant hereby respectfully requests reconsideration and reexamination of the above-identified application. The specification has been amended to reflect the issuance of the parent case as a U.S. Patent. Claim 14 has been canceled as it is considered a duplicate of claim 27. The dependency of claim 31 has been changed from claim 7 to claim 27, to correct a typographical error. Otherwise, claims 31-33 would be duplicates of claims 11-13. New claims 34-38 have been added. Claims 7-13 and 27-38 remain in the application.

Patent Office Claim Objections

The Examiner states that should claim 14 be found allowable, claim 27 would be objected to as being a substantial duplicate thereof.

Applicant's Response to Claim Objection

Applicant has canceled claim 14, thereby removing any duplicity with claim 27 that may exist.

Patent Office Rejection of Claims 7-14 and 27-33 under 35 USC 102(b) over Zirino

The Examiner states that Zirino teaches an apparatus, comprising a source of visible light for irradiating a solution with a wavelength and intensity to establish a pH change in the solution and to cause a polymer in the solution to undergo a change in volume when the solution is irradiated with light. Figure 2, the abstract and claim 1 are cited by the Examiner to support this assertion.

In regard to claim 7, the Examiner reminds the Applicant that the solution and the polymer disposed in the solution are limitations on the material to be worked by the apparatus, and that the manner by which the apparatus were to be operated is a process limitation. The Examiner asserts that both the material to be worked upon and the functional limitations have been held to be insufficient to be patentably distinct over prior art when an apparatus claim is considered for patentability. Cited by the Examiner are *In*

re Young and In re Venner.

Regarding claims 8-14 and 27-33, the Examiner points out that it has been known that the material to be worked upon by the apparatus has been held to have little patentable weight when an apparatus claim is being considered for its patentability, citing *In re Young*.

Regarding claims 8-9 and 28-29, the Examiner states that Zirino teaches the polymer being a polyelectrolyte fiber and the polyelectrolyte fiber being PAA-PVA, citing claims 1 and 4 of Zirino.

In regard to claims 10 and 30, the Examiner states that Zirino teaches the pH change in the solution being within plus or minus 1 pH value of a null point pH value of the polyelectrolyte fiber, citing claim 2 of Zirino for support.

Regarding claim 11-12 and 31-32, the Examiner asserts that Zirino teaches the polymer being a polymer gel and the polymer gel being an acrylamide gel, citing column 7, lines 7-8 and claims 35-36, 38 and 40 for support.

Finally, in regard to claims 13 and 33, the Examiner teaches the pH change in the solution being within plus or minus 1 pH value of a null point pH value of the polymer gel, citing claim 36 for support.

Applicants' Response to the Patent Office Rejections under 35 USC 102 over Zirino

Applicant traverses these rejections.

Addressing 35 USC 102, Applicant finds no disclosure, either express or implied, wherein Zirino teaches an apparatus utilizing a solution of anthracene. Zirino is completely void of this claimed limitation.

As stated by the Court of Appeals for the Federal Circuit in *W. L. Gore*, 220 USPQ 303 (Fed. Cir. 1993),:

"[a]nticipation requires the disclosure in a single prior art reference of each element of the claim under consideration."

More recently, the Court has stated in *Scripps Clinic and Research Found. V. Genentech*

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Inc., 18 USPQ 2d 1001, 1010 (Fed. Cir. 1991), that:

"There must be no difference between the claimed invention and the referenced disclosure, as viewed by a person of ordinary skill in the field of the invention."

Without a single prior art reference disclosing all of the elements of Applicant's claimed invention, a prima facie case of anticipation has not been made. Accordingly, the 35 USC 102 rejection of Applicant's claims on the basis of Zirino is considered improper. It is respectfully requested that this rejection be withdrawn.

Citing *In re Young*, the Examiner states: "that the solution, and the polymer disposed in the solution, are limitations on the material to be worked by the apparatus", and that such materials fail to add to the patentability of the claims at issue.

Applicant traverses the "apparatus" interpretation as made by the Examiner. *In re Young* refers to a concrete beam making machine wherein in claim 6 thereof the concrete beams themselves were made a part of the claim. The Patent Office rejected all of Young's claims and further rejected the cited claim upon the ground that it "includes the articles operated upon by the machines".

In the present case, Applicant asserts that the Examiner's interpretation of the "apparatus" as being other than the claim as a whole is improper. Applicant considers the apparatus, as taken from claim 7, to be:

- (1) a solution containing anthracene;
- (2) a polymer disposed in said solution, said polymer having the characteristic of

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changing its volume in response to a change in pH; and

(3) a source of visible light for irradiating said solution with light of a wavelength and of an intensity to establish a pH change in said solution so that when said solution is irradiated with said visible light said polymer undergoes a change in volume.

Applicant also considers that 1935 case cited by the Examiner to have been effectively overruled. The 1994 reference cited by the Examiner, Zirino, includes the presently rejected same claim format it its allowed claim 1.

In reference to the Examiner's use of *In re Venner*, it is unclear as to what functional limitations the Examiner is referring to. Without a more concise elaboration, the Applicant cannot adequately respond in defense.

Whether such functional limitations are or are not present, does not remove the fact that the Examiner has not disclosed any prior art that teaches or suggest the combination claimed.

Applicant has added new claims 34 - 38 wherein a solution of anthracene is combined in one case with a polyelectrolyte fiber and in another case combined with an acrylamide gel.

Neither of these cases will add any additional searching beyond that required for Applicant's claims as originally submitted.

The additional claims describe inventions that are new, useful and nonobvious over the prior art.

Zorino does not teach or suggest this combination claimed by Applicant.

Withdrawal of the 35 USC 102 rejection on the basis of Zirino is therefor respectfully requested.

Any inquiry concerning this case should be directed to Applicants' attorney, Mr. Peter

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Respectfully submitted,

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